CHECK LIST FOR THE B.S. DEGREE IN BIOLOGY

EMPHASIS IN EVOLUTION AND SYSTEMATICS

Emphasis Adviser: Dr. Tod Reeder (LS-264)

This field focuses on the evolutionary relationships among species and the processes that drive evolutionary change. Systematics is the detailed study of a group of organisms to determine their evolutionary relationships (phylogeny), clarify its classification, and assess trends in ecology, biogeography, and evolutionary processes. Evolutionary biologists explore mating systems, drift, gene flow and natural selection with studies that include anatomy, behavior, biogeography, development, ecology, genetics, and molecular biology of both living and fossil organisms. Graduates can work in universities, museums, zoos, biotechnology or governmental agencies.

PREPARATION FOR THE MAJOR (37 units of lower division courses)

| Biol 203 | Principles of Cell & Molecular Biol. | 3     | Chem 232 | Organic Chemistry | 3     |
| Biol 203L | Princ. of Cell & Molecular Biol. Lab | 1     | Chem 232L | Organic Chemistry Lab | 1     |
| Biol 204 | Principles of Organismal Biology | 3     | Math 124 | Calculus for the Life Sciences | 4     |
| Biol 204L | Principles of Organismal Biology Lab | 1     | Phys 180A | Fundamentals of Physics | 3     |
| Biol 215 | Biostatistics | 3     | Phys 182A | Physical Measurements | 1     |
| Chem 200 | General Chemistry | 5     | Phys 180B | Fundamentals of Physics | 3     |
| Chem 201 | General Chemistry | 5     | Phys 182B | Physical Measurements | 1     |

FINISHING YOUR DEGREE IN FOUR YEARS

To finish in four years, all 9 sets of premajor courses listed above will need to be finished by the end of the 4th semester, or the 5th at the latest.

IMPACT

Biology is impacted. After admission to SDSU, students are initially placed into the Biology premajor. Premajors must meet department-specific criteria in order to be admitted to the major. Admission to the Biology major requires:
- completion of all Preparation for the Major courses
- an overall GPA of at least 2.6 (for all courses taken)
- combined GPA of 2.7 or higher in Preparation courses
- satisfaction of the lower-division writing competency requirement
- a minimum grade of C in each Preparation course
- no coursework for the premajor or the major may be graded Cr/NC

After completing these requirements, meet with the Biology advisor to be admitted to the major. Students who do not meet one or more requirements should meet with the Biology advisor each semester to determine an appropriate course of action.

PREREQUISITES

- all prerequisites for all courses are necessary, and many are computer-enforced
- speak to the course instructor if you believe that a prerequisite should be waived for some unusual reason
- you cannot take Chem 200 without 1) passing a placement exam, or 2) passing Chem 100 with a C or better
- you cannot take Biology 366 before being admitted to the major
- meet with a Bioadviser if your prerequisite courses from another institution are not properly recognized in your Degree Audit Report

MAJOR: BIOLOGY W/ EMPH. IN EVOLUTION & SYSTEMATICS (Minimum of 36 upper div. units)

An overall 2.0 GPA is required for courses in the major.

Required courses (18 units):


Elective courses (18 units):

At least 12 of the required 18 units of upper division electives must be selected from the following list. Two or more electives must be laboratory courses, one of which must be an organismal course approved for this emphasis*. The remaining 6 units can include Biology 350-599 (except Biology 452), and certain Chemistry courses between 410A-599.

†Biol 458 Plant Biology* | 3     | Biol 524 | Ornithology* | 4     | Biol 568 | Bioinformatics | 3     |
†Biol 460 Economic Botany* | 3     | Biol 525 | Mammalogy* | 4     | †Biol 576 Developmental Biology | 3     |
†Biol 508 Coevolution | 3     | †Biol 526 | Terr. Arthropod Biol.* | 4     | Biol 497/499 Indep. Research1 | 1-3    |
Biol 510 Molecular Evolution | 3     | Biol 527 | Animal Behavior | 3     | Biol 490 | Honors Research1 | 3     |
†Biol 515 Marine Invert. Biology* | 4     | †Biol 530 | Plant Systematics* | 4     | Other (remaining 6 units) |  |
†Biol 518 Biology of Fishes | 4     | Biol 531 | Taxonomy Cal. Plants* | 4     | Other (remaining 6 units) |  |
†Biol 523 Herpetology* | 4     | Biol 562 | Ecolog. Metagenomics | 3     |

† Not taught in 2015-2016.
* Approved organismal courses
1 Prior approval of the Biology adviser (in LS-135) is needed and papers must be filed with the Office of Advising & Evaluations.
For the most current information and answers to 25 Frequently Asked Questions
See the bioadvising web page http://www.sci.sdsu.edu/bioadvice/

Degree opportunities

The Department of Biology offers the following degrees:

| B.S. in Biology, with optional emphases in Cellular & Molecular Biology, Ecology, Evolution & Systematics, Marine Biology, or Zoology | B.A. in Biology |
| B.S. in Microbiology, with an optional emphasis in Clinical Laboratory Science/ Public Health Microbiology | B.A. in Microbiology |
| Minor in Biology, with optional emphases in five areas | Biotechnology Certificate |
| Demonstrate subject matter competency for the Single Subject Teaching Credential in Biology/Life Sciences |

Changing majors or minors

Biology and Microbiology are impacted majors. If you wish to change majors, add a second major, or add a minor, see our department policies at http://www.sci.sdsu.edu/bioadvice/

Additional information

Prospective students: http://arweb.sdsu.edu/es/admissions/

Chemistry 200 placement exam: http://www.chemistry.sdsu.edu/courses/CHEM200/200_Placement_exam.php

"TAP" database of courses that will automatically transfer: https://sunspot.sdsu.edu/pubred/!tap.disp

Articulation of science courses that are not in the TAP database: meet with Biology advisors

Resources for traditionally underrepresented groups: CASA http://www.sci.sdsu.edu/casa/

Career Services (register by your sophomore year): http://career.sdsu.edu/student_affairs/career/

Preprofessional Health Advising Office (GMCS-323): http://www.sci.sdsu.edu/preprof/

Official explanation of graduation requirements: http://arweb.sdsu.edu/es/advising/9gradreqs.html